Cape BMP Video Script 6-23-15

Topic: Measuring Performance of Nitrogen Stormwater BMPs

Rough Time Allocation	Audio	Visual
Presentation of Stormwater BMPs for Nitrogen in southeast New England		
0:00 – 0:45	**Primary Narrator** Throughout southeast New England, nitrogen pollution has a significant impact on aquatic life and habitat. We are fortunate that we have access to innovative technologies such as stormwater best management practices that utilize natural processes to treat stormwater for pollutants before being discharged into nearby surface waters. On Cape Cod, nitrogen is a prevalent pollutant which contributes to the impairment of our surface water bodies. This nitrogen comes from sources such as failing septic systems, stormwater runoff, and agriculture. Currently, there is no perfect solution for eliminating nitrogen pollution completely but there are new methods being developed and tested which may yield a promising solution to dealing with the issue. EPA New England has partnered with two communities on Cape Cod to design and construct two innovative green infrastructure stormwater BMP retrofits on public land that will treat stormwater for nitrogen before being discharged into receiving waterbodies. Green Infrastructure refers to management practices which use natural hydrologic features (e.g., soils, plants) to manage water and provide environmental and community benefits.	Intro Image Speaker Speaker and Visuals Images of stormwater infrastructure (outfall) Picture of completed stormwater BMPs – Chatham and Barnstable

	Lynne/Curt: Throughout New England, EPA is turning to innovative technologies like Green Infrastructure for dealing with nutrient pollution in combination with traditional "grey" approaches. We will also be investing in monitoring the performance of these technologies after they've been installed.	
BMP #1 - Barnstable		
0:34– 1:00	**Thomas K. Lynch, (Town Manager)** [a little background on Barnstable, Hyannis and Hyannis Inner Harbor]	
	Dale Saad, Ph.D Senior Project Manager Water and Sewer The BMP located in Barnstable, MA is a *sub-surface* gravel wetland which is designed to treat a 0.3 inch storm. Stormwater flowing into the BMP [here] is directed across the landscaped wetland surface to the far end [there] where it infiltrates down into a subsurface chamber and eventually returns back to the main MS4 trunk line for discharge [over here].	Footage of Barnstable BMP Footage or photo showing diversion flow-IN structure. Footage showing far end of BMP Footage showing diversion flow-out structure
	Matt Lundsted (CEI): The BMP captures and treats stormwater from an approximate 7 - 8 acre catchment (3.5 - 4.2 acres IC) that would ordinarily discharge to Hyannis Inner Harbor, a water body listed as impaired for total nitrogen and fecal coliform, and with a subwatershed N reduction target of 68.7%. .	
	Ray:	

	This subsurface gravel wetland is a modification of a pilot system developed by UNHSC and was uniquely applicable at this site because of the lack of municipal space available for siting a BMP. It is perhaps a quintessential example of treating nitrogen within the geographically-constrained urban environment. In brief, stormwater containing soluble nitrogen is diverted into the BMP; it is then held in the system for approximately 24-30 hours under anaerobic conditions where microbes (anaerobes) facilitate denitrification (i.e., to N2). In brief, the system is an anaerobic bioreactor. We anticipate the system should conservatively control an approximate 42.2% of the total available N loading to Hyannis Inner Harbor **Ken Hickey:** Some of the challenges associated with the Gateway Marina site in Barnstable were the logistics associated with constructing on a 0.35 acre parcel next to Hyannis Inner Harbor. In addition, we had to design and construct in the presence of a high water table. This site presents a great example because we are showing that it's possible to install a functioning BMP on a very small parcel of land. **Roger Parsons:** This project is important to the town of Barnstable because it sets an example for other municipalities to see that this type of innovative approach can be effective for stormwater management.	
BMP #2 – Chatham		
1:01 – 1:30	**Jill Goldsmith (Town Manager)** Oyster Pond is ... [a little background on Oyster Pond and Chatham.]	

	Bob Duncanson Robert A. Duncanson, Ph.D. Director of Health & Natural Resources Town of Chatham This parcel of land in Chatham was an unused town parcel characterized by the presence of a wetlands area and invasive plant species (bittersweet, [etc.]). We are pleased that it is now an innovative *surface* gravel wetland for stormwater control. Karen Simpson, EPA SNEP Coordinator This BMP retrofit is a *surface* gravel wetland designed to treat a 0.3 inch storm from an approximate 17-18 acre MS4 catchment or approximately 5.7-6.4 acres of impervious cover that would ordinarily discharge to Oyster Pond, an impaired water body with a TMDL and a subwatershed N reduction target of 85%. Nick Christofori (CEI) Some of the challenges we faced with the design and construction of this BMP retrofit were designing near a wetlands which limited the effective useable space for the BMP, navigating a significant slope from the road down to the BMP area which complicated site logistics. Ray Cody We were pleased to work with an actively engaged Conservation Commission and the general public who were very interested in the preservation / conservation of the area. Paul Chouinard (CALI Corp.) The BMPs are to be maintained by the Towns in accordance with an O&M Plan developed for each BMP.	
The significance of these projects in the SNEP region		
1:30 – 2:00	SPEAKER	

	As an important part of the Southeast New England Program, both of these BMPs will be monitored for how well they treat nitrogen for the next several years. Lynne/Curt Not only are these technologies serving as pilot installations in constrained sites, but the ability of these technologies to treat nitrogen sets a precedence for future installations in other towns as a way to effectively deal with nutrient issues.	Contact Information for Follow-up